

REMARKS

This responds to the Office Action mailed on April 26, 2004.

No claims have been amended, canceled, or added. Claims 4, 6-8, 12-17, and 25-31 were previously withdrawn from consideration. Claims 1-17 and 25-31 are now pending in this application.

Information Disclosure Statement

Applicant submitted a Supplemental Information Disclosure Statement and a 1449 Form on March 23, 2004. Applicant respectfully requests that an initialed copy of the 1449 Form be returned to Applicant's Representatives to indicate that the cited reference has been considered by the Examiner.

§103 Rejection of the Claims

Claims 1-3, 5, and 9-11 were rejected under 35 USC § 103(a) as being unpatentable over Marrs et al. (U.S. 5,355,283) in view of Sawada (U.S. 5,424,250). Applicant respectfully traverses the rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.1).

The Office Action admits that Marrs et al. does not disclose "using a fiber reinforced encapsulation material." (Office Action at page 2). The Office Action next appeals to Sawada to fill this deficiency. Sawada is concerned, however with air bubbles 112 (FIG. 11) and uses a technology for sheet molding (convex surfaces) in a pressure molding technique. Sawada teaches that transfer molding is not contemplated for his technology (e.g. see column 6, lines 63-

68), and further, the attempt to transfer mold a cloth is technologically difficult if not impossible. Sawada thus teaches a structure that cannot include “a package core having ... a microelectronic die located within the opening of said package core; and a fiber reinforced encapsulation material within the opening of the package core” (Claim 1). Further, since Sawada’s technology is specifically directed toward avoiding bubbles, the attempt to even pressure mold the sheets taught in Sawada, would result in likely bubbles in the hole 509 of Marrs et al. Because Sawada’s technology is inimical to Marrs’ technology, the reasonable expectation of success to achieve a combination of Marrs with Sawada can come only from Applicant’s disclosure. Withdrawal of the rejection is respectfully requested.

Applicant notes that claims 2, 3, 5, 9, and 11 depend from claim 1 and are therefore also not unpatentable over the cited references. Withdrawal of the rejections is respectfully requested.

Claims 2 and 3 add limitations of fiber size and aspect ratio, respectively. The Office Action cites to case law regarding size ranges that “overlap or lie inside ranges disclosed by the prior art.” (Office Action, page 3, citation omitted). The Office Action admits, however, that Sawada discloses no ranges at all, and further admits that Marrs does not even disclose fibers. Thus a prima facie case of obviousness has not been established since there are no ranges disclosed in the cited references. Withdrawal of the rejections is respectfully requested.

Claims 5, 9, and 10 claim specific materials. Because the combination of Marrs with Sawada does not teach all the claim elements, and because there is no reasonable expectation of success by the combination of Marrs with Sawada, as set forth above, Applicant respectfully asserts that these claims are allowable over the cited references. Withdrawal of the rejections is respectfully requested.

Claim 11 teaches a metallization that is built up over the package core. Neither Marrs nor Sawada teaches this limitation. Were either of these to teach such a technology, there remains no reasonable expectation of success by the combination of Marrs with Sawada, as set forth above. Applicant respectfully asserts that these claims are allowable over the cited references. Withdrawal of the rejections is respectfully requested.

RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/854539

Filing Date: May 14, 2001

Title: POLYMERIC ENCAPSULATION MATERIAL WITH FIBROUS FILLER FOR USE IN MICROELECTRONIC CIRCUIT PACKAGING

Assignee: Intel Corporation

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Dkt: 884.415US1 (INTEL)

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney John Greaves at 801-278-9171, or the below-signed attorney at 612-349-9592, to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

INTEL CORPORATION

By their Representatives,

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Date July 26, 2004

By Ann M. McCrackin
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 26th day of July 2004.

Anne M. Richards

Name

Anne M. Richards
Signature